

# NATURAL

# RADIATION

# THERAPY

Compiled by

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## IMPORTANT

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## Introduction

Today, being exposed to environmental pollution is inevitable; however, a healthy individual can adapt to, and deal with, the typically low and periodic exposure to pollutants in the air, water, and food. Some chemicals are easier to avoid than others; and the individual has more control over what they take into their body than what pollutants go into the air and water. Healthy food choices, such as "organic" produce and "purified water", and avoiding food additives, cigarettes, and home chemicals will help to reduce the risks.

The following recommendations are designed for people subject to regular (daily) environmental exposure, such as those living in a smoggy industrial city, as well as for people who are chronically or acutely exposed to particular chemical agents. These include artists, chemical workers, metal workers, electronics workers, people who use pesticides, printers, those exposed to x-rays, either as technicians or as patients, and those who work around or at nuclear or other power plants.

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## Healing Baths

**Metal or chemical exposure** - use a bleach bath, which helps remove pollutants through skin. Add 1/4 to 1 cup bleach to a hot bath; just soak for 15-20 minutes. Do not use on, or wash, hair.

**Radiation exposure** - use a salt-soda bath. Add 1 pound each of sea salt and baking soda to a hot bath; just soak until the bath is cool. Try this salt-soda bath following long hours at a computer, or travel.

**Energizing detoxification bath** - use an apple cider vinegar bath. Add 2 cups of apple cider vinegar to a hot bath; just soak for 15-30 minutes. Can be used for radiation exposure as an alternative to the salt-soda bath.

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## Healthy Diet

Because chemical bombardment can lead to a weakened immune system, an increase in allergies, and more symptoms and disease, avoiding foods high in chemicals is definitely part of the plan. Some people become hypersensitive to the chemicals in the environment as a result of chemical exposures, and foods can be a major factor. The most important food additives to avoid are the food colours found in so many artificial foods and the nitrates and nitrites used in cured meats, such as bacon, ham, bologna, and salami. Artificial flavours and other food additives, such as sulfites\* and MSG\*, should also be avoided.

\***Sulfites** - or sulphur dioxide is a widely used food preservative.

\***MSG** - Monosodium glutamate.

Chlorophyll-containing foods, such as the greens-lettuces, spinach, chard, and kale-are good choices, as are the cruciferous vegetables, such as cabbage, cauliflower, broccoli, and brussels sprouts, which are thought to be anticancer foods (these should all be "organic," as these skinless vegetables may concentrate chemicals). All of these foods, as well as most sprouts, are good sources of vitamin K; these cruciferous vegetables are also known to protect us from cancer development. Foods rich in beta-carotene, such as these same cruciferous vegetables, as well as carrots and sweet potatoes, will add more of this antioxidant nutrient. Some freshly made vegetable juices daily, with carrots, greens, and others, adds a vitalizing and purifying drink.

## Miso

Miso, a fermented soybean paste used for soup broth, is known to protect against pollution and radiation.

Seaweeds are high in natural metal-chelating algins, and are likewise useful anti-pollution foods. They are also high in minerals. Some researchers believe that yogurt, and other fermented milk products, also help protect against pollution.

Extra kelp (seaweed powder), brewer's yeast, or liquid lecithin may also give additional support.

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## Anti-Radiation Soup

by Bethany Arglsle

### Serves Two

*4 ounces tofu, cut in small squares*  
*1 ounce kombu or nori, cut in strips*  
*3 cups purified water*  
*1 Tablespoon miso paste (or to taste)*  
*1 lemon*  
*1H cups cooked brown rice*  
*1 Tablespoon toasted sesame oil (optional)*  
*green onions, chopped (optional)*  
*cilantro, chopped (optional)*  
*Miso Paste*

For "Anti-Radiation Soup", add the tofu and seaweed (nori or kombu) to boiling water and simmer for a few minutes. Stir in some miso paste for flavour (do not boil the miso), add juice of lemon and the optional ingredients if desired, cover, and let sit for 15-20 minutes. Serve with brown rice, which can be eaten separately or stirred into the soup.

This "macrobiotic dish" was shown to reduce radiation sickness after the Hiroshima bombing; and it is believed that it can protect an individual from some of the hazardous effects of x-rays and metal exposures.

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## **Vitamins**

Many vitamins, minerals, and other nutrients can counteract some of the actions of environmental toxins. A good-quality "multiple vitamin" will provide many of them.

The antioxidant nutrients will decrease the potential of free-radical toxicity.

Vitamin A provides immune support and tissue protection.

Beta-carotene specifically reduces the carcinogenicity of many chemicals, especially airborne ones and the chemicals in cigarette smoke; it also helps decrease the negative effects of ionizing radiation.

Vitamin C protects the cells and tissues against the effects of water-soluble chemicals such as carbon monoxide, metals such as cadmium, and metabolic by-products such as carcinogenic nitrosamines made from nitrites. At least several grams of ascorbic acid daily are needed for this protection.

The B vitamins are also important. A B complex formula with sufficient thiamine, pantothenic acid, and niacinamide is usually helpful. Niacin, the B3 "flushing" form, has an interesting role in the purification process, especially with many chemicals and pesticides. A combination of high amounts of niacin and other vitamins and minerals, long saunas, plenty of fluids, and aerobic exercise offers a very purifying process. There have even been claims of improvement of symptoms from Agent Orange (2,4,5T) toxicity with the use of this kind of detoxification approach. This type of therapy is usually carried out over periods of about two or three weeks. It can even be done on occasion after recent exposure or excessive drug intake.

Lipoic acid, a cofactor in the metabolism of pyruvate, is another important relative of the B vitamins. It is not essential in humans, but it does have some medicinal effects and it is safe. It helps protect the liver and it aids in detoxification, particularly for the effects of radiation. This vitamin can be taken at levels of about 100 mg. daily to gain its benefit.

Vitamin E, 400-800 IUs; and selenium, 200-300 mcg, work in combination to protect the cells from pollutants including ozone, nitrogen dioxide, nitrites, and metals, such as lead, mercury, silver, and cadmium.

For environmental protection, the sodium selenite form of selenium may not be as effective as the more direct-acting selenomethionine form, especially in regard to its detoxifying function.

## **Minerals**

Many minerals are helpful in protecting an individual. Zinc is probably most important mineral as an immune strengthener and tissue healer that is needed for the functioning of many detoxifying enzymes, and thus helps to protect cells from pollutant toxins.

As an example, zinc, as well as copper and manganese, function in the *superoxide dismutase* system to detoxify oxygen free radicals, which might be generated from ozone and photochemical smog.

Calcium and magnesium help to neutralize some colon toxins and decrease heavy metal absorption from the gastrointestinal tract.

## Amino Acids

The sulphur-containing amino acids have a protective and detoxifying effect. L-cysteine, the primary one, may help neutralize many heavy metal toxins and toxic by-products (aldehydes) of smoking, smog, alcohol, and fats through its precursor role in the formation of glutathione, a tripeptide essential to the action of several important enzymes, particularly *glutathione peroxidase*. Since glutathione itself is not very stable nor thought to be well utilized as an oral supplement, L-cysteine appears best utilized for this protective purpose. Methionine, another sulphur-containing amino acid, also has mild detoxification and protective functions.

## Fibre

Fibre, both the insoluble type, such as wheat bran, and the more soluble psyllium husks, encourage natural detoxification in the colon by binding toxins and reducing the absorption of metals.

Another chelating fibre is the algin molecule, sodium alginate, that comes from seaweeds. It can be utilized as a supplement to decrease absorption of minerals, especially the heavy metals and radioactive metals used in nuclear power plants and medical testing.

The chlorophyll-containing algae, such as chlorella and spirulina also provide this chelating effect, though more mildly than the alginate extracts.

Several studies have shown a decreased absorption of radioactive strontium (Sr90) as well as barium, silver, mercury, cadmium, zinc, and manganese with the use of oral alginates. Two other nutrients that are popular in antioxidant and antistress energizing formulas are the enzyme *superoxide dismutase* (SOD) and dimethylglycine (DMG). Many people, who take them, describe improved energy and mental clarity.

## Exposure

Regarding radiation exposure, the first suggestion is to avoid it whenever possible.

Minimize irradiating medical tests. Particularly avoid medical body scans, which may require injection of radioactive metals such as cobalt 60, iodine 131, or technitium 90. With x-rays, shield the thymus gland, an important immunological organ in the upper chest. When dental x-rays are taken, ask the dental technician for a thyroid (neck) screen. The dentist should have a lead "thyroid collar" available. Do not live near a nuclear power plant or an industry that employs radioactive wastes or toxic chemicals. Also, do not eat fish caught from waters containing effluents from these factories. Frequent high-altitude airline flights increase radiation exposure. Avoid irradiated foods that may be treated with nuclear waste containing cobalt 60 or cesium 137. It is not known what the "real" effects of consuming radiation treated food are - so avoid all such food.

With any radioactive iodine tests or exposure to iodine fallout, take kelp or iodine for several weeks before and after the test to occupy the iodine-binding sites (unless, of course, this will interfere with the test) so that the least amount of the radioactive element will stay in the body.

Strontium 90 competes with calcium and also lowers vitamin D. Taking extra vitamin D, calcium, and magnesium plus kelp and algin, pectin, and lecithin, and L-cysteine may reduce absorption and speed elimination to prevent strontium 90 from getting stored in the bones.

Radiation causes many undesirable internal reactions, especially in the most prolific tissues, such as the gastrointestinal tract and skin. Radiation therapy may affect the appetite, tastes, and the ability to eat.

Unfortunately, radiation is cumulative, and many things may add to it, from old CRT colour TVs computer screens and microwaves to x-rays and fallout exposure. Consequently, we need a good protective regime; and when we live in areas with high background radiation, it is recommended that higher amounts of antioxidants are regularly taken (e.g. daily).

## Other Guidelines

Several researchers have offered guidelines for protection against the effects of radiation:

Paavo Airola, in *How to Get Well*, suggests a strategy of high amounts of vitamin C with rutin, extra pantothenic acid, brewer's yeast, yogurt, vitamin F or essential fatty acids, inositol and lecithin, and lemon juice or lemon peel.

Stuart Berger's guide-lines in *The Immune Power Diet* include extra potassium, 1200 mg. of calcium, and 800 mg. of magnesium in addition to his usual environmental protection plan of 4-6 grams of vitamin C, 600 IUs of vitamin E, 100 mg. of zinc, and 20,000 IUs of beta-carotene.

In *The Complete Guide to Anti-Aging Nutrients*, Sheldon Hendler recommends vitamins C and E, niacin and copper, to protect against the effects of x-rays and environmental toxins.

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## Environmental Pollutants

In addition to radiation, the recommendations in this material will also help against environmental pollutants, including a number of toxic chemicals, such as carbon monoxide, ozone, sulphur dioxide, and nitrogen dioxide from the air, various pesticides and volatile hydrocarbons, food additives such as nitrites and sulfites, and toxic heavy metals such as lead, cadmium, and mercury. Cigarette smoke is a big problem, especially for those who choose to smoke or cannot quit.

A number of herbs and food extracts can be used to help detoxification and decrease the risks from environmental pollution. The algin, mentioned earlier, help clear metal and radiation toxins. Fibres such as wheat (or oat) bran and psyllium seed husks help to increase toxin elimination. Alfalfa, rich in chlorophylls and vitamin K, may help reduce tissue damage with radiation exposure. Apple pectin also helps bind and clear intestinal metal and chemical toxins.

In *The Scientific Validation of Herbal Medicine*, Daniel Mowrey recommends a formula for environmental pollution including alfalfa, algin (from seaweed or algae), wheat bran, apple pectin, and kelp. These help to decrease the toxicity of chemical and metal pollutants; in addition, this high-fibre formula helps to reduce cholesterol levels and is often useful in treating colds and flu, where bowel elimination is so important. Extra vitamin E and fish oils containing DHA and EPA as well as an antioxidant formula with additional vitamin C may make this formula work even better. Of course, we as a culture must pay heed. Even our potential healing sources (water, food, oils, etc.) can become toxic if we do not care for Earth's environment.

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## Protection Dose

- Water 2-3 qt
- Fibre\* 12-18 g

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- Vitamin C 6,000 mg
- Vitamin A 10,000-15,000 IUs
- Beta-carotene 15,000-30,000 IUs
- Vitamin D 400 IUs
- Vitamin E 800-1,000 IUs
- Vitamin K 500 mcg
- Thiamine (B1) 25-75 mg
- Riboflavin (B2) 25-75 mg
- Niacin (B3) 150 mg
- Pantothenic acid (B5) 1,000 mg

|                                 |                                |
|---------------------------------|--------------------------------|
| • Pyridoxine (B6)               | 50-100 mg                      |
| • Pyridoxal-5-phosphate         | 25-50 mg                       |
| • Cobalamin (B12)               | 100-200 mcg                    |
| • Folic acid                    | 800 mcg                        |
| • Biotin                        | 500 mcg                        |
| • PABA (para-aminobenzoic acid) | 100 mg                         |
| • Choline                       | 1,000 mg                       |
| • Inositol                      | 1,000 mg                       |
| • Bioflavonoids                 | 500 mg                         |
|                                 | --()--                         |
| • Calcium                       | 600-1,000 mg                   |
| • Chromium                      | 400 mcg                        |
| • Copper                        | 3 mg                           |
|                                 | --()--                         |
| • Iodine                        | 150-300 mcg                    |
| • Iron                          | 15-20 mg                       |
| • Magnesium                     | 350-650 mg                     |
| • Manganese                     | 15 mg                          |
| • Molybdenum                    | 600 mcg                        |
| • Selenium,                     | 300 mcg. (as selenomethionine) |
| • Silicon                       | 100 mg                         |
| • Zinc                          | 60 mg                          |
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| • L-amino acids                 | 500 mg                         |
| • L-cysteine+                   | 500 mg                         |
| • L-methionine+                 | 250 mg                         |
| • Lipoic acid                   | 100 mg                         |
| • Chlorophyll                   | 6 tablets or 2 tsp             |
| • Sodium alginate               | 300-600 mg                     |
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\*A high-fibre diet and/or 6 g. each of wheat bran and psyllium husks

+Take with three times the amount of vitamin C

## **PABA**

**PABA** (para-aminobenzoic acid) is antioxidant that mops up free-radicals, or "loose electrons", which cause cumulative cellular damage and are implicated in the aging process.

Further, PABA may play a role in reducing fatigue, limiting the effects of depression (which can be brought on by a PABA deficiency) and reducing the inflammatory effects associated with osteoarthritis.

PABA also assists in the formation of erythrocytes (red blood cells).

Moreover, PABA has been found to reduce the onset of wrinkles, keep skin smooth, and even restore greying hair to its original colour.

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## Appendix

### Red Wine

Researchers, at the University of Pittsburgh's School of Medicine, have found that red wine contains molecular properties that promise relief from radiation exposure, according to researchers.

The researchers, at the med school's Centre for Medical Countermeasures against Radiation were investigating ways to protect humans against radiation poisoning from nuclear emergencies, radiological spills, and terrorism. And during their research, they discovered that the natural anti-oxidant resveratrol, which is found in red wine, protects cells and helps prevent death.

The scientists combined the anti-oxidant with acetyl and administered it to mice before they were exposed to radiation. Dr. Joel Greenberger of Pitt's Department of Radiation Oncology believes that the acetylated resveratrol could be used to develop drugs that protect against, or counteract, radiation exposure. Currently, no such drugs are available.

The researchers published a study which indicated that a resveratrol-based drug called "JP4-039" could counter the effects of radiation exposure. (A pure form of resveratrol in its natural state was also tested and showed improved cell-survival rates, but not as markedly as the modified resveratrol drug.)

The nontoxic drug, which scientists have been testing since 2004, can help mitochondria, the energy-producing bodies in human cells, combat cell death due to exposure to radiation. In past studies, resveratrol has been shown to beneficially stimulate mitochondria.

However, the researchers warned that individuals cannot get the same potency from just drinking wine or ingesting other resveratrol-derived products in the event of an emergency. They suggest that resveratrol, an antioxidant compound, may act as a natural protector in the same manner as vitamin C or vitamin E, which can help the body resist radiation damage.

Greenberger added that people cannot get the same protection by simply drinking or eating certain antioxidant-rich foods. He gave the example of curcumin, the substance found in curry powder that is a natural radiation protector. A person would have to ingest several ounces or more of the powder to get similar results to those produced by the resveratrol compound being tested. In the end, it may cause more discomfort than help.

"You would not be able to duplicate our results by just drinking wine," Greenberger said. "The problem is the dosing. The dosage you would need to get levels up high enough in humans would be very large amounts. You couldn't just drink the wine or eat the grapes-you wouldn't get enough [resveratrol]."

He added that someone would have to drink approximately 720 bottles of wine to match the results of the resveratrol compound they've created. "By the time someone drank that much wine," joked Greenberger, "you wouldn't have to worry about the radiation anymore."

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## Appendix

### Disinfecting Water With Bleach

#### Disinfection of Drinking Water (Potable)

When boiling of water for 1 minute is not practical, water can be made potable by using this product. Prior to addition of this product, remove all suspended material by filtration or by allowing it to settle to the bottom.

Decant the clarified contaminated water to a clean container and add 8 drops of good quality household bleach to 1 gallon of water (2 drops to 1 quart).

Allow the treated water to stand for 30 minutes.

Properly treated water should have a slight chlorine odor. If not, repeat dosage and allow the water to stand an additional 15 minutes.

The treated water can then be made palatable by pouring it between clean containers several times.

For cloudy water, use 16 drops of good quality household bleach per gallon of water (4 drops to 1 quart).

If no chlorine odor is apparent after 30 minutes, repeat dosage and wait an additional 15 minutes.

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## Appendix

### Bleach Bath

#### What's Required?

- Regular good quality household bleach (sodium hypochlorite).
- A bath.
- Hot water.

#### How Long?

- About 20 Minutes

#### Procedure

- Mix 1/2 cup of good quality household bleach into a bath of hot water.
- Just soak in the bath for about 20 minutes while it cools naturally.
- Dry yourself off.
- Repeat the bleach bath twice a week.

#### Warning

**Do not wash your hair in the Bleach bath**

That's it... enjoy...

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